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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/682,480	10/10/2003	Nam-Jeong Lee	1293.1955	1465

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EXAMINER	
ZACHARIA, RAMSEY E	
ART UNIT	**PAPER NUMBER**
1773	

DATE MAILED: 04/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/682,480	LEE ET AL.
	Examiner	Art Unit
	Ramsey Zacharia	1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 February 2006*.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-6 and 20-24* is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1,4-6 and 20-24* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *10 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a)☒ All b)☐ Some * c)☐ None of:
1.☒ Certified copies of the priority documents have been received.
2.☐ Certified copies of the priority documents have been received in Application No. _____.
3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/14/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03 February 2006 has been entered.

Claim Rejections - 35 USC § 103

3. Claims 1, 4-6, 21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuse et al. (U.S. Patent 5,045,421) in view of Itoh et al. (U.S. Patent 5,013,623) and Mott et al. (U.S. Patent 6,066,426).

Fuse et al. teach an electrophotography photoreceptor comprising a conductive base, a charge transport layer, and a charge generation layer (column 2, lines 25-31). The charge transport layer may be formed on the substrate and the charge generation layer may be formed on the charge transport layer (column 8, lines 3-8). The charge transport layer comprises an aromatic carboxylic compound, a charge transport material, and a binder resin (column 3, lines 36-40). The charge transport material is used in an amount of 30 to 200 parts per 100 parts of binder resin (column 7, lines 53-59). Since the aromatic carboxylic compound is present in an amount of 0.001 to 10 parts per 100 parts binder, the overall concentration of the charge transport material in the charge transport layer is a minimum of 30/(30+100+0.001) = ~23 wt% and a maximum of 200/(200+100+10) = ~65%. In the embodiment of Example 1, a cylindrical substrate (i.e. a drum) was coated with a charge transport layer. The charge transport material may be a mixture of stilbene and hydrazone materials (claim 5).

Fuse et al. do not teach the particular stilbene and hydrazone materials recited in the claims.

Itoh et al. teach a stilbene compound that may be used as a photoconductive substance (column 2, lines 15-40). The specific compound of instant claim 23 is disclosed as Example I-(1) (column 6, line 10). The photoreceptors formed with the compound have high sensitivity and endurance with substantially no reduction in sensitivity after repeated use (column 1, line 65-column 2, line 5).

Mott et al. teach a hydrazone charge transport compound that reads on the material of instant claim 3 (column 2, lines 1-43). The specific compound of instant claim 24 is disclosed as formula (2) in column 3. Mott et al. also teach that it is well-known to apply of additional layers, such as a barrier or release layer, over a photoreceptor (column 21, lines 40-55).

One skilled in the art would be motivated to use the stilbene compound of Itoh et al. and the hydrazone compound of Mott et al. as the charge transport material of Fuse et al. since Fuse et al. teach the use of a combination of a stilbene and hydrazone materials and Itoh et al. and Mott et al. demonstrate that their stilbene and hydrazone compounds are suitable for use in charge transport layer of photoreceptors. The selection of a known material based on its suitability for its intended use supports a *prima facie* obviousness determination. See MPEP 2144.06.

Regarding claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to optimize the relative amounts of the different charge transport materials, since Fuse et al. teach that combinations of any amount may be used and determining an optimum value involves only routine skill in the art.

Furthermore, it would be obvious to apply a barrier or release layer (either of which would read on the overcoat layer of claim 6) to the photoreceptor of Fuse et al. to protect the photoreceptor or aid in toner release since Mott et al. demonstrates that the application of such layers is well-known in the art.

4. Claims 20 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swanke (U.S. Patent 3,619,050) in view of Fuse et al. (U.S. Patent 5,045,421) and Itoh et al. (U.S. Patent 5,013,623).

Swanke is directed to an electrophotographic apparatus comprising an electrophotosensitive member, a charging station, an exposure station, a developing station, a transfer station, and a cleaning station (column 1, lines 26-46). The apparatus comprises a removable cartridge containing the electrophotosensitive member (column 2, lines 8-54).

However, Swanke is silent as to the composition of the electrophotosensitive member.

Fuse et al. taken in view of Itoh et al. and Mott et al. teach an electrophotography photoreceptor comprising a conductive base, a charge transport layer, and a charge generation layer as outlined above. The photoreceptor shows low residual potential and is excellent in charge-ability even if used repeatedly (see column 8, lines 10-17 of Fuse et al.).

One skilled in the art would be motivated to use the electrophotography photoreceptor of Fuse et al. taken in view of Itoh et al. and Mott et al. as the electrophotosensitive member of Swanke because it shows low residual potential and is excellent in charge-ability even if used repeatedly.

Double Patenting

5. Claims 1 and 6 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-5 of copending Application No. 10/674,786. Although the conflicting claims are not identical, they are not patentably distinct from each other because the inventions of instant claims 1-3 and 6 represent a genus of which the inventions described by claims 1-5 of Application No. 10/674,786 are species. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993). Claims 1-5 of Application No. 10/674,786 are directed to a multilayer photoconductor comprising a charge transport layer having two different charge generating materials. In claim 5, the first charge generating material is the same as that of instant claim 2 (therefore soluble in an acetate solvent) and the second charge generating material is the same as that of instant claim 3 (therefore insoluble in an acetate solvent).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

6. Applicant's arguments filed 03 February 2006 have been fully considered but they are not persuasive.

The applicants argue that the indication in Fuse et al. of a mixture of stilbene and hydrazone materials for use in the charge transport layer is insufficient to identify or suggest the use of the claimed combination of formula (1) and formula (2). The applicants further argue that, because Fuse et al. require the inclusion of a metal ion that is not required by the present invention, Fuse et al. teach away from the present invention. Hence it is argued that Fuse et al. alone does not teach or suggest the claimed invention.

This is not persuasive because none of the claims were rejected over Fuse et al. alone. Moreover, because the claims use open language, the claims are open to the inclusion of a metal ion. As such, the presence of a metal ion cannot be said to teach away from the claimed invention since the claimed invention also includes embodiments containing metal ions.

The applicants argue that Itoh et al. do not teach the use of a combination of formula (1) and formula (2) and submit that a combination of organic compounds may provide different results than the results obtained with simply one organic compound. The "Nylon Rope Trick" is cited, presumably to illustrate that a combination of organic compounds may react together.

This is not persuasive because none of the claims were rejected over Itoh et al. alone. Moreover, the example presented on page 17 of the response is irrelevant to the issue at hand; there is nothing to suggest that the stilbene and hydrazone materials would react together and there is a direct teaching in Fuse et al. that they may be used together. One skilled in the art would not expect a mixture of stilbene and hydrazone materials to behave the same as a mixture of sebacoyl chloride and 1,6-hexanediamine. Furthermore, the courts have held that it is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose as the idea of combining them flows logically from their having been individually taught in the prior art. *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980) and MPEP 2144.06.

The applicants argue that there is no motivation to combine the teaching of Fuse et al., Itoh et al., and Mott et al. and that to make such a combination involves the impermissible use of hindsight.

This is not persuasive because it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, the motivation for combining the references is not taken from the instant disclosure. Rather, it is the prior art that teach: (1) the use of a mixture of stilbene and hydrazone materials as a charge transport material [Fuse et al.], (2) the use of a stilbene of formula (1) as a charge transport material [Itoh et al.], and (3) the use of a hydrazone of formula (2) as a charge transport material [Mott et al.]. Because the courts have held that the selection of a known material based on its suitability for its intended use supports a *prima facie* obviousness determination (see MPEP 2144.07), and because Itoh et al. and Mott et al. have demonstrated that materials reading on formula (1) and formula (2) are stilbene and hydrazone materials suitable for use as a charge transport material, it is *prima facie* obvious to use these two materials as the stilbene and hydrazone materials in the invention of Fuse et al.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey Zacharia whose telephone number is (571) 272-1518. The examiner can normally be reached on Monday through Friday from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney, can be reached at (571) 272-1284. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ramsey Zacharia
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